

# SEQUENCE LISTING

<110> Jahn, Margaret M.  
Kang, Byoung-Cheorl

<120> RECESSIVE PLANT VIRAL RESISTANCE RESULTS FROM MUTATIONS  
IN TRANSLATION INITIATION FACTOR eIF4E

<130> 19603/4252

<140> 10/538,434

<141> 2003-12-17

<150> 60/434,220

<151> 2002-12-17

<150> PCT/US03/40184

<151> 2003-12-17

<160> 39

<170> PatentIn Ver. 2.1

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<211> 875

<212> DNA

<213> Capsicum annuum

<400> 1

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<211> 228

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<213> Capsicum annuum

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Glu Ile Val Glu Glu Thr Asp Asp Thr Thr Ser Tyr Leu Ser Lys Glu  
35 40 45

Ile Ala Thr Lys His Pro Leu Glu His Ser Trp Thr Phe Trp Phe Asp  
50 55 60

Asn Pro Val Ala Lys Ser Lys Gln Ala Ala Trp Gly Ser Ser Leu Arg  
65 70 75 80

Asn Val Tyr Thr Phe Ser Thr Val Glu Asp Phe Trp Gly Ala Tyr Asn  
85 90 95

Asn Ile His His Pro Ser Lys Leu Val Val Gly Ala Asp Leu His Cys  
100 105 110

Phe Lys His Lys Ile Glu Pro Lys Trp Glu Asp Pro Val Cys Ala Asn  
115 120 125

Gly Gly Thr Trp Lys Met Ser Phe Ser Lys Gly Lys Ser Asp Thr Ser  
130 135 140

Trp Leu Tyr Thr Leu Leu Ala Met Ile Gly His Gln Phe Asp His Glu  
145 150 155 160

Asp Glu Ile Cys Gly Ala Val Val Ser Val Arg Gly Lys Gly Glu Lys  
165 170 175

Ile Ser Leu Trp Thr Lys Asn Ala Ala Asn Glu Thr Ala Gln Val Ser  
180 185 190

Ile Gly Lys Gln Trp Lys Gln Phe Leu Asp Tyr Ser Asp Ser Val Gly  
195 200 205

Phe Ile Phe His Asp Asp Ala Lys Arg Leu Asp Arg Asn Ala Lys Asn  
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Arg Tyr Thr Val  
225

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 <212> DNA  
 <213> Capsicum chinense

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 acgacgtcgt atttgagcaa agaaatagca gcaaagcatc cattagagca ttcattggact 180  
 ttctggtttg ataatacagt ggcgaaatcg agacaagctg cttggggtag ctcgcttcgc 240  
 aacgtctaca ctttctccac tgttgaagat ttttgggggtg cttacaataa tatccaccac 300  
 ccaagcaagt tagttgtgag agcagactta cattgtttca agcataaaat tgagccaaag 360  
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 <211> 228  
 <212> PRT  
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 20 25 30  
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 35 40 45  
 Ile Ala Ala Lys His Pro Leu Glu His Ser Trp Thr Phe Trp Phe Asp  
 50 55 60  
 Asn Thr Val Ala Lys Ser Arg Gln Ala Ala Trp Gly Ser Ser Leu Arg  
 65 70 75 80  
 Asn Val Tyr Thr Phe Ser Thr Val Glu Asp Phe Trp Gly Ala Tyr Asn  
 85 90 95  
 Asn Ile His His Pro Ser Lys Leu Val Val Arg Ala Asp Leu His Cys  
 100 105 110

Phe Lys His Lys Ile Glu Pro Lys Trp Glu Asp Pro Val Cys Ala Asn  
 115 120 125

Gly Gly Thr Trp Lys Met Ser Phe Ser Lys Gly Lys Ser Asp Thr Ser  
 130 135 140

Trp Leu Tyr Thr Leu Leu Ala Met Ile Gly His Gln Phe Asp His Glu  
 145 150 155 160

Asp Glu Ile Cys Gly Ala Val Val Ser Val Arg Gly Lys Gly Glu Lys  
 165 170 175

Ile Ser Leu Trp Thr Lys Asn Ala Ala Asn Glu Thr Ala Gln Val Ser  
 180 185 190

Ile Gly Lys Gln Trp Lys Gln Phe Leu Asp Tyr Ser Asp Ser Val Gly  
 195 200 205

Phe Ile Phe His Asp Asp Ala Lys Arg Leu Asp Arg Asn Ala Lys Asn  
 210 215 220

Arg Tyr Thr Val  
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 acgacgtcgt atttgagcaa agaaatagca acaaagcatc cattagagca ttcattggact 180  
 ttctgggtttg ataatccaga ggcgaaatcg aaacaagctg cttggggtag ctgcgcgtcgc 240  
 aacgtctaca ctttctccac tgttgaagat ttttgggggtg cttacaataa tatccaccac 300  
 ccaagcaagt tagttgtggg agcagactta cattgtttca agcataaaat tgagccaaag 360  
 tgggaagatc ctgtatgtgc caatggaggg acatggaaaa tgagtttttc aaagggtaaa 420  
 tctgatacca gctggctata tacgctgctt gcaatgattg gacatcaatt cgatcatgaa 480  
 gatgaaattt gtggagcagt agttagtgtc agaggtaagg gagaaaaaat atctttgtgg 540  
 accaagaatg ctgcaaataa aacggctcag gttagcattg gtaagcaatg gaagcagttt 600  
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 <211> 228

<212> PRT

<213> Capsicum annuum

<400> 6

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Glu	Ile	Val	Glu	Glu	Thr	Asp	Asp	Thr	Thr	Ser	Tyr	Leu	Ser	Lys	Glu	
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	50					55					60					
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65					70					75				80		
Asn	Val	Tyr	Thr	Phe	Ser	Thr	Val	Glu	Asp	Phe	Trp	Gly	Ala	Tyr	Asn	
			85						90					95		
Asn	Ile	His	His	Pro	Ser	Lys	Leu	Val	Val	Gly	Ala	Asp	Leu	His	Cys	
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	115						120					125				
Gly	Gly	Thr	Trp	Lys	Met	Ser	Phe	Ser	Lys	Gly	Lys	Ser	Asp	Thr	Ser	
	130					135						140				
Trp	Leu	Tyr	Thr	Leu	Leu	Ala	Met	Ile	Gly	His	Gln	Phe	Asp	His	Glu	
145				150					155					160		
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			165					170					175			
Ile	Ser	Leu	Trp	Thr	Lys	Asn	Ala	Ala	Asn	Glu	Thr	Ala	Gln	Val	Ser	
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	195					200						205				
Phe	Ile	Phe	His	Asp	Asp	Ala	Lys	Arg	Leu	Asp	Arg	Asn	Ala	Lys	Asn	
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Arg	Tyr	Thr	Val													
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 ttctggttttg ataatccaga ggcgaaatcg aaacaagctg cttggggtag ctgcgcgtcgc 240  
 aacgtctaca ctttctccac tgttgaagat ttttgggggtg cttacaataa tatccaccac 300  
 ccaagcaagt tagttgtggg agcaaactta cattgtttca agcataaaat tgagccaaag 360  
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 Glu Ile Val Glu Glu Thr Asp Asp Thr Thr Ser Tyr Leu Ser Lys Glu  
 35 40 45  
 Ile Ala Thr Lys His Pro Leu Glu His Ser Trp Thr Phe Trp Phe Asp  
 50 55 60  
 Asn Pro Glu Ala Lys Ser Lys Gln Ala Ala Trp Gly Ser Ser Arg Arg  
 65 70 75 80  
 Asn Val Tyr Thr Phe Ser Thr Val Glu Asp Phe Trp Gly Ala Tyr Asn  
 85 90 95  
 Asn Ile His His Pro Ser Lys Leu Val Val Gly Ala Asn Leu His Cys  
 100 105 110

Phe Lys His Lys Ile Glu Pro Lys Trp Glu Asp Pro Val Cys Ala Asn  
 115 120 125

Gly Gly Thr Trp Lys Met Ser Phe Ser Lys Gly Lys Ser Asp Thr Ser  
 130 135 140

Trp Leu Tyr Thr Leu Leu Ala Met Ile Gly His Gln Phe Asp His Glu  
 145 150 155 160

Asp Glu Ile Cys Gly Ala Val Val Ser Val Arg Gly Lys Gly Glu Lys  
 165 170 175

Ile Ser Leu Trp Thr Lys Asn Ala Ala Asn Glu Thr Ala Gln Val Ser  
 180 185 190

Ile Gly Lys Gln Trp Lys Gln Phe Leu Asp Tyr Ser Asp Ser Val Gly  
 195 200 205

Phe Ile Phe His Asp Asp Ala Lys Arg Leu Asp Arg Asn Ala Lys Asn  
 210 215 220

Arg Tyr Thr Val  
 225

<210> 9  
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 <213> Artificial Sequence

<220>  
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<400> 9  
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<210> 10  
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 <212> DNA  
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<400> 10  
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<210> 11  
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<223> Description of Artificial Sequence: Primer

<400> 11  
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<210> 14  
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<400> 18  
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<210> 20

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<212> DNA

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<210> 21

<211> 27

<212> DNA

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<210> 22

<211> 23

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Primer

<400> 22

agctgaaatg gagaaaacga cga

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<210> 23  
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<210> 30  
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<210> 31  
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<210> 32  
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<220>  
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<210> 34  
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 <400> 37  
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 ccatatggca acagctga 18

<210> 39

<211> 24

<212> DNA

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<223> Description of Artificial Sequence: Primer

<400> 39

ccctcgagct atacggtgta acga

24